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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,630	12/23/2005	Kyouhiro Yoshida	20057-002US1 PCT-2004-008	8597
26211 7590 11/19/2007 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER CHEN, XIAOLIANG	
			ART UNIT 2841	PAPER NUMBER
			MAIL DATE 11/19/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/562,630

Applicant(s)

YOSHIDA, KYOUIHIRO

Examiner

Xiaoliang Chen

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-23-05, 9-17-07</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruyama et al. (US20040208211).

**Re claim 1,** Maruyama et al. clearly show and disclose

A communication module comprising:

a semiconductor member (5, fig. 1A);

a flexible printed circuit board (flexible wiring board [ABSTRACT]) on which said semiconductor member is mounted and to which said semiconductor member is electrically connected (a flexible wiring board provided with solder connecting points at both ends of the high speed signal transmission wirings. [ABSTRACT]);

a stem (1, fig. 1C) through which said board is inserted and to which said board is then fixed; and

a cap (11, fig. 1C) so disposed as to cover said semiconductor member.

**Re claim 2,** Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein the semiconductor member is at least one of a light emitting element (6, fig. 1C), a light receiving element (8) and an integrated circuit (33, fig. 3C).

**Re claim 4,** Maruyama et al. clearly show and disclose

The communication module according to Claim 1,  
wherein a plurality of different flexible printed circuit boards (fig. 2) are fixed to the stem.

**Re claim 5,** Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein an end of the flexible printed circuit board(s) that protrudes from the stem has a connector (113, fig. 21B) that can connect to a subsequent-stage circuit board.

Examiner's Note: a flexible printed circuit board with a connector is also a well knowledge in the art at the time the invention was made, for example, the cited prior art, US 20050008303, (fig. 2).

**Re claim 6,** Maruyama et al. clearly show and disclose

The communication module according to Claim 1, wherein the flexible printed circuit board(s) exhibits a bent-shape (the flexible substrate 400 is previously formed (bent) in the trapezoidal shape for use [0108]) when in a plane.

(Examiner's Notes: Bent a flexible board in a plane is a well knowledge in the art at the time the invention was made, for example, the cited prior art, US 20020126457, US5742389, US5825486, US20070161292, all used a bent flexible board in a plane, L or U shaped.)

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. in view of Asano et al. (US20040227677).

**Re claim 3**, Maruyama et al. clearly show and disclose

The communication module according to Claim 1,

Maruyama et al. does not disclose wherein the flexible printed circuit board including a type of lines selected from among coplanar lines, micro-strip lines, and grounded coplanar lines.

In the same field of an electronic device, Asano et al. teaches:

wherein the flexible printed circuit board includes a type of lines selected from among coplanar lines, micro-strip lines, and grounded coplanar lines (a micro-strip line placed on a flexible board and a coplanar line placed on a flexible board, [claim 13]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electronic device of Maruyama et al. by placing a micro-strip or a coplanar line on a flexible board as

taught by Asano et al., "can receive more stable signal level under various receiving conditions." (Asano et al., paragraph [0049])

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-20030001250   US-20020000561   US-20050023538   US-20020105279  
US-20040256979   US-20040152392   US-20040072380   US-20050245103  
US-20040037334   US-20040081468   US-20050168957   US-20050195877  
US-20040240803   US-20010028611   US-20050025030   US-20010024461  
US-20050008303   US-20020126457   US-20070161292   US-6164838  
US-6157072   US-6038203   US-5742389   US-5825486

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiaoliang Chen whose telephone number is 571-272-9079. The examiner can normally be reached on 7:00-5:00 (EST), Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Xiaoliang Chen *Xc.*  
Examiner  
Art Unit 2841



**Diego Gutierrez**  
**Supervisory Patent Examiner**  
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